



## Appendix 10

GVA  
81 Fountain Street  
Manchester  
M2 2EE

# North Yorkshire SHMA – Appendix 10

Housing Survey Methodological Overview

November 2011

Prepared By .Matthew Spilsbury ..... Status .Senior Consultant . Date 15-11-2011 .....

Reviewed By Antony Pollard..... Status . Associate ..... Date 15-11-2011 .....

**For and on behalf of GVA Ltd**

## CONTENTS

1.	Housing Survey – Methodological Overview .....	1
----	--	---

# 1. Housing Survey – Methodological Overview

## Overview

- 1.1 The primary research methodology predominantly utilised a large scale postal survey. Respondents could return the paper questionnaire or complete the questionnaire form on-line. A supplementary booster telephone survey was also conducted to ensure a sample representative of the population of the sub-region.
- 1.2 All fieldwork was conducted between January and April 2011. A total of 15,641 household questionnaires were completed across the North Yorkshire sub-region. Of these, 13,603 households returned the questionnaire by post while a further 1,249 questionnaires were completed on line via the dedicated website set up for the SHMA.
- 1.3 A total of 789 of the 15,641 responses received were conducted through targeted 'booster' interviews undertaken by telephone.
- 1.4 Responses at local authority level, listed below, exceed in each case the minimum recommended response rate set out in the CLG SHMA Guidance of 1,500 responses<sup>1</sup>.
  - Craven: 2,677 responses;
  - Hambleton: 2,662 responses;
  - Harrogate: 2,900 responses;
  - Richmondshire: 1,957 responses<sup>2</sup>;
  - Ryedale: 1,853 responses;
  - Scarborough: 1,862 responses; and
  - City of York: 1,730 responses.

---

<sup>1</sup> Strategic Housing Market Assessments Annexes (April 2007) – CLG: p.24 para. 18

## Data Collection & Sampling

### *Postal Survey*

1.5 In total 153,518<sup>3</sup> household questionnaire forms were posted to a sample of households within North Yorkshire utilising Council Tax Register address details provided by each of the seven local authorities in the study. At the time of the survey there were 318,303 residential addresses in North Yorkshire. This number is broken down at the local authority level as follows:

- Craven: 26,065 households;
- Hambleton: 39,270 households;
- Harrogate: 67,547 households;
- Richmondshire: 20,333 households<sup>4</sup>;
- Ryedale: 23,949 households;
- Scarborough: 56,214 households; and
- City of York: 84,924 households.

1.6 Within York, the project brief required a 100% sample of 'rural' parishes and a random sample of 'urban' parishes; rural parishes being defined as those with a population less than 3,000 and urban as those with populations greater<sup>5</sup>.

1.7 In York, with a large section of the Local Authority un-parished, a different approach was taken. Instead sampling was ward based with key settlements and the student population 100% sampled. This 'first cut' sampling was then adjusted to ensure representativeness at the Local Authority sub area level.

---

2 Further responses in Richmondshire were received from the SFA military population and are analysed separately within the Richmondshire Appendix and are not included in the main reporting.

3 An additional 1,586 were sent to the SFA military population in Richmondshire. Analysis of these returns is shown separately.

4 Further responses in Richmondshire were received from the SFA military population and are analysed separately within the Richmondshire Appendix and are not included in the main reporting.

- 1.8 Checks were also completed for each of the geographical sub regional sub units to ensure that sufficient returns would be received to enable analysis to be completed at these levels. Throughout the sampling process an 18% return was assumed.
- 1.9 Approximately 15,000 households initially completed a questionnaire with exactly 14,852 usable returns from which data could be collected. Of these, 13,603 households returned the questionnaire by post while a further 1,249 questionnaires were completed online via the dedicated website set up for the SHMA. This initially constituted a marginally sub-optimal return and consequently a booster telephone interview campaign was conducted generating data for an additional 789 households. The next section details the booster telephone campaign.

#### *The Booster Telephone Survey*

- 1.10 Following the completion of the main survey phase, geographical analysis of returns was conducted. The analysis of returns included the full hierarchy of geographical unit from sub area level down to the parish level as well the sub regional geographies such as the National Parks and the coastal sub region.
- 1.11 Booster telephone interviews were targeted in geographical units within each local authority identified as having received a sub-optimal return. The primary aim of the booster campaign was to ensure that each local authority sub area had at least 100 returns as set out in SHMA guidance. Secondary targets of 40 returns at the ward level and at least one return at the parish level were also set. The secondary targets were set to enable survey results to be disaggregated to these levels and to enhance the accuracy of the proportional weighting operations (see weighting section).

---

<sup>5</sup> The parishes of 'Bentham', 'Glusburn and Cross Hills' and 'Sutton' in Craven with populations greater than 3,000 were designated 'rural' at the request of the client team. With the Catterick Garrison population removed the parishes of Colburn, Hipswell, Scotton were also treated as rural and 100% sampled.

- 1.12 The sample for the booster telephone survey was drawn from the Council Tax Register addresses provided by each local authority. Telephone numbers were appended from publicly available sources<sup>6</sup> to addresses of households which had not returned either their paper questionnaire or completed a questionnaire online.
- 1.13 Telephone interviews were conducted by trained interviewers in Vision Twentyone's in-house Contact Centre with the head of household or another suitable household member<sup>7</sup>. Vision Twentyone utilised Computer Aided Telephone Interviewing (CATI) software and technology. Data was recorded electronically at the time of interview by the interview team, and subsequently quality checked and analysed by project managers.
- 1.14 Survey and interviewer error was minimised through survey software features such as automated routing and validation rules, which ensured questionnaire logic was followed and questions were completed accurately. The software prevented interviewers from omitting questions, thereby minimising interviewer error.
- 1.15 Multiple attempts to call each available telephone number were made at differing times of the day and at weekends to ensure a wide range of residents had an opportunity to take part, taking into account their work or social commitments.
- 1.16 The telephone booster campaign successfully achieved its primary aim of ensuring a minimum of 100 returns and at the local authority sub area level thereby helping to meet SHMA minimum guidance.
- 1.17 The secondary aims have also been largely met. The target of 40 returns at ward level has been achieved in 158 of the 175 wards in North Yorkshire. The lowest ward level return is 27. A return has been achieved in 650 of the 679 parishes.<sup>8</sup> The following table illustrates the total sample achieved and its split between the sub-areas referenced within the SHMA report (Section 2):
- 

<sup>6</sup> Sources include the BT Telephone Phonebook and marketing databases. Marketing databases typically collect telephone numbers from people completing other surveys and other items such as warranty cards.

<sup>7</sup> For the purposes of this survey only a household member who has responsibility for making living arrangement decisions on behalf of the whole household could complete the questionnaire.

<sup>8</sup> The parishes with no return are so small that the effect on weighting is negligible.

Figure 1: Sub-area returns

Sub Area	Returns	% of returns
Craven: High Bentham	444	2.84%
Craven: National Park & Rural Craven	237	1.52%
Craven: Settle	486	3.11%
Craven: Skipton	1,510	9.65%
Craven: Total	2,677	17.12%
Hambleton: Bedale	113	0.72%
Hambleton: Bedale Hinterland	358	2.29%
Hambleton: Easingwold	117	0.75%
Hambleton: Easingwold Hinterland	489	3.13%
Hambleton: Northallerton	178	1.14%
Hambleton: Northallerton Hinterland	374	2.39%
Hambleton: Stokesley	139	0.89%
Hambleton: Stokesley Hinterland	375	2.40%
Hambleton: Thirsk	100	0.64%
Hambleton: Thirsk Hinterland	419	2.68%
Hambleton: Total	2,662	17.02%
Harrogate: Boroughbridge	171	1.09%
Harrogate: Harrogate	529	3.38%
Harrogate: Knaresborough & Scriven	131	0.84%
Harrogate: Knaresborough Villages	105	0.67%
Harrogate: Lower Nidderdale Villages	247	1.58%
Harrogate: Lower Wharfedale	137	0.88%
Harrogate: Marston Villages	159	1.02%
Harrogate: Masham Area	108	0.69%
Harrogate: Northern Villages	132	0.84%
Harrogate: Ripon	126	0.81%
Harrogate: Ripon South Villages	114	0.73%
Harrogate: Ripon West Villages	206	1.32%
Harrogate: South Harrogate Villages	100	0.64%
Harrogate: Upper Nidderdale	341	2.18%
Harrogate: Upper Wharfedale	100	0.64%
Harrogate: Vale of York	194	1.24%
Harrogate: Total	2,900	18.54%
Richmondshire: Central	802	5.13%
Richmondshire: Lower Wensleydale	395	2.53%
Richmondshire: North Richmondshire	323	2.07%
Richmondshire: Swaledale	128	0.82%



Sub Area	Returns	% of returns
Richmondshire: Wensleydale and Bishopdale	309	1.98%
Richmondshire: Total	1,957	12.51%
Ryedale: Ampleforth, Sinnington, Hovingham, Amot	313	2.00%
Ryedale: Cropton & Dales	159	1.02%
Ryedale: Derwent	159	1.02%
Ryedale: Helmsley	139	0.89%
Ryedale: Kirkbymoorside	107	0.68%
Ryedale: Malton & Norton	218	1.39%
Ryedale: Pickering	205	1.31%
Ryedale: Sheriff Hutton & Ryedale	159	1.02%
Ryedale: Thornton Le Dale	179	1.14%
Ryedale: Wolds, Rillington, Sherburn	215	1.37%
Ryedale: Total	1,853	11.85%
Scarborough: Filey / Hunmanby	109	0.70%
Scarborough: Northern Parishes	569	3.64%
Scarborough: Scarborough Area	433	2.77%
Scarborough: Southern Parishes	284	1.82%
Scarborough: Western Parishes	224	1.43%
Scarborough: Whitby Area	243	1.55%
Scarborough: Total	1,862	11.90%
York: Central	138	0.88%
York: Suburban	1006	6.43%
York: York Villages	586	3.75%
York: Total	1,730	11.06%
North Yorkshire: Total	15,641	100.00%

Source: *Housing Survey, 2011 Vision Twentyone*

- 1.18 Meeting these targets assisted in ensuring that the sample was representative at all geographical levels prior to weighting. Taken together, the three methodologies resulted in a final sample for the sub-region of 15,641 returns which constitutes a 10.2% response rate and provides sufficient data to analyse at the local authority and sub-area level.

## Weighting Procedures

1.19 The combined final data was weighted to ensure the survey sample was representative at a variety of geographies across the sub-region. The local authority geography unit formed the primary basis for weighting i.e. data was weighted to reflect the actual population within each local authority area. This approach allowed data to be disaggregated down to smaller geographical units and for analysis of sub regional geographies to be constructed using the combined constituent local authority weights. Two types of weighting have been used: post-stratification weighting and projection weighting ('grossing up').

### Post-stratification weighting

1.20 Post-stratification weighting adjusts the proportion of cases in the sample using key variables to match to the proportions in the population of each local authority. The variables used in this procedure were geographical location (sub area, ward and parish), tenure, dwelling type and household composition, making each local authority sample representative as a whole across these variables, but with the possibility of some deviation from the population profile at sub-area level.

1.21 Weighting values used in both procedures were derived from two main secondary sources of information. This included:

- Council Tax records provided by each local authority were used to develop the survey sample and ultimately weighting targets for sub-area, ward and parish as proportions within each local authority (see Fig 1.2);
- 2001 Census proportions were used to develop a dwelling tenure, dwelling type and household composition profile for each local authority.

## Projection Weighting

- 1.22 Projection weighting was used to 'gross up' the survey results to population estimates, so as to provide household number estimates at the authority level. The robustness of any statistics based on projection weighted data relies on the size and representativeness of the underlying sample, the estimates from which are then simply subjected to multipliers in order to produce grossed figures. In accordance with standard survey and polling procedures, the samples achieved in each local authority in this survey are of sufficient magnitude to generalise to the population. Through the use of post-stratification weighting it can also be treated as representative of the profile of the each local authority and North Yorkshire.
- 1.23 In order to gross-up the survey results to reflect the whole population of each local authority, the actual number of addresses provided in Council Tax address records was used in each case to provide a base target (see paragraph 1.5).

## Applying the Weighting Methodologies

- 1.24 Post-stratification weighting took account of the extent to which the percentage of returns deviated from the percentage of households estimated to be in each category, before the sample was grossed up to population totals. Throughout the report we display the 'grossed-up' estimated household number of 318,302<sup>9</sup>, which is presented in the tables below and represents the output of the weighting process. Where the base shown deviates from this value, this is due either to the exclusion of those to whom the question did not apply, missing data or to computer rounding:

---

<sup>9</sup> This number does not exactly match the initial household number estimate due to weighting processes and computer rounding.

Figure 1.3: Weighting Alignment of Survey Results

Local Authority	Number of survey returns	% of survey returns	Survey: Estimated Households	Survey: % of Households
Craven	2,677	17.1%	26,065	8.2%
Hambleton	2,662	17.0%	39,270	12.3%
Harrogate	2,900	18.5%	67,547	21.2%
Richmondshire	1,957	12.5%	20,333	6.4%
Ryedale	1,853	11.8%	23,949	7.5%
Scarborough	1,862	11.9%	56,214	17.7%
York	1,730	11.1%	84,924	26.7%
North Yorkshire (total)	15,641	100.0%	318,303	100.0%

Sub Area	Number of survey returns	% of survey returns	Survey: Estimated Households	Survey: % of Households
Craven: High Bentham	444	2.8%	3,579	1.1%
Craven: National Park & Rural Craven	237	1.5%	1,769	0.6%
Craven: Settle	486	3.1%	4,163	1.3%
Craven: Skipton	1,510	9.7%	16,554	5.2%
Hambleton: Bedale	113	.7%	1,477	0.5%
Hambleton: Bedale Hinterland	358	2.3%	3,724	1.2%
Hambleton: Easingwold	117	.7%	2,186	0.7%
Hambleton: Easingwold Hinterland	489	3.1%	4,670	1.5%
Hambleton: Northallerton	178	1.1%	7,548	2.4%
Hambleton: Northallerton Hinterland	374	2.4%	3,635	1.1%
Hambleton: Stokesley	139	.9%	4,391	1.4%
Hambleton: Stokesley Hinterland	375	2.4%	3,224	1.0%
Hambleton: Thirsk	100	.6%	4,269	1.3%
Hambleton: Thirsk Hinterland	419	2.7%	4,147	1.3%
Harrogate: Boroughbridge	171	1.1%	2,544	0.8%
Harrogate: Harrogate	529	3.38%	32,681	10.3%
Harrogate: Knaresborough & Scriven	131	.8%	6,647	2.1%
Harrogate: Knaresborough Villages	105	.7%	1,090	0.3%
Harrogate: Lower Nidderdale Villages	247	1.6%	3,157	1.0%
Harrogate: Lower Wharfedale	137	.9%	1,552	0.5%
Harrogate: Marston Villages	159	1.0%	1,298	0.4%
Harrogate: Masham Area	108	.7%	861	0.3%
Harrogate: Northern Villages	132	.8%	1,459	0.5%
Harrogate: Ripon	126	.8%	7,045	2.2%
Harrogate: Ripon South Villages	114	.7%	980	0.3%
Harrogate: Ripon West Villages	206	1.3%	1,766	0.6%

Sub Area	Number of survey returns	% of survey returns	Survey: Estimated Households	Survey: % of Households
Harrogate: South Harrogate Villages	100	.6%	837	0.3%
Harrogate: Upper Nidderdale	341	2.2%	2,988	0.9%
Harrogate: Upper Wharfedale	100	.6%	821	0.3%
Harrogate: Vale of York	194	1.2%	1,822	0.6%
Richmondshire: Central	802	5.1%	10,473	3.3%
Richmondshire: Lower Wensleydale	395	2.5%	3,246	1.0%
Richmondshire: North Richmondshire	323	2.1%	3,343	1.1%
Richmondshire: Swaledale	128	.8%	1,193	0.4%
Richmondshire: Wensleydale and Bishopdale	309	2.0%	2,078	0.7%
Ryedale: Ampleforth, Sinnington, Hovingham, Amot	313	2.0%	3,168	1.0%
Ryedale: Cropton & Dales	159	1.0%	1,475	0.5%
Ryedale: Derwent	159	1.0%	1,561	0.5%
Ryedale: Helmsley	139	.9%	1,644	0.5%
Ryedale: Kirkbymoorside	107	.7%	1,691	0.5%
Ryedale: Malton & Norton	218	1.4%	5,588	1.8%
Ryedale: Pickering	205	1.3%	3,276	1.0%
Ryedale: Sheriff Hutton & Ryedale	159	1.0%	1,463	0.5%
Ryedale: Thornton Le Dale	179	1.1%	1,607	0.5%
Ryedale: Wolds, Rillington, Sherburn	215	1.4%	2,475	0.8%
Scarborough: Filey / Hunmanby	109	.7%	5,828	1.8%
Scarborough: Northern Parishes	569	3.6%	6,644	2.1%
Scarborough: Scarborough Area	433	2.8%	29,143	9.2%
Scarborough: Southern Parishes	284	1.8%	3,755	1.2%
Scarborough: Western Parishes	224	1.4%	2,210	0.7%
Scarborough: Whitby Area	243	1.6%	8,632	2.7%
York: Central	138	.9%	7,236	2.3%
York: Rural	615	3.9%	15,641	4.9%
York: Suburban	1,006	6.4%	62,019	19.5%
Total (North Yorkshire)	15,641	100.0%	318,303	100.0%

Tenure	Number of survey returns	% of survey returns	Survey: Estimated Households	Survey: % of Households
Owner-occupied (no mortgage)	8,061	51.5%	110,967	34.9%
Owner-occupied (with mortgage)	4,498	28.8%	118,629	37.3%
Social rented	1,269	8.1%	40,846	12.8%
Private Rented (includes households living rent free)	1,813	11.6%	47,862	15.0%
Total (North Yorkshire)	15,641	100.0%	318,303	100.0%

Dwelling Type	Number of survey returns	% of survey returns	Survey: Estimated Households	Survey: % of Households
Detached	6,763	43.2%	93,758	29.5%
Semi-detached	4,534	29.0%	104,045	32.7%
Terrace	3,305	21.1%	76,129	23.9%
Flats (Includes mobile or temporary structures)	1,039	6.6%	44,371	13.9%
Total (North Yorkshire)	15,641	100.0%	318,303	100.0%

Household Composition	Number of survey returns	% of survey returns	Survey: Estimated Households	Survey: % of Households
Couple	10,579	67.6%	151,264	47.5%
Lone parent	452	2.9%	23,834	7.5%
Other multi-person	853	5.5%	50,694	15.9%
One person	3,757	24.0%	92,510	29.1%
Total	15,641	100.0%	318,303	100.0%

*Source: Housing Survey, 2011 Vision Twentyone, Census 2001*

## Non-response and missing data

- 1.25 All surveys are subject to missing data. The levels of missing data across this survey have been found to be within acceptable bounds, meaning that little action was required to address it. To enable the completion of the housing need analysis it was necessary to 'impute' missing values for household income - a common source of item non-response in British household surveys.
- 1.26 Imputation is a statistical procedure which uses the respondent's answers to other questions in the survey to estimate a likely value for the missing item. This exercise included any demographic and socio-economic variables routinely expected to be related to household income, including respondent demographic / socio-economic characteristics and the demographic / socio-economic profile of the household as a whole (e.g. number of employed householders, net number of earners, taking account of number of householders of working age).